ORIGINAL

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November 21, 2019

VIA HAND DELIVERY
Ms. Marlene Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, DC 20554

Attention: Audio Division, Media Bureau

Re: Station WBMD (AM), Baltimore, Maryland
Facility Id. No. 1913
License Application

Request for Program Test Authority

Dear Ms. Dortch:

Transmitted herewith in triplicate on behalf of Family Stations, Inc. ("Family") is an application for a license to cover the construction permit (BP-20190719AAR) to modify the facilities of Station WBMD, Facility Id. No. 1913, Baltimore, Maryland. Family herein request Program Test Authority to begin operation with WBMD's modified facilities.

Because WBMD is licensed as a noncommercial educational station, no filing fee is required with this application.

Pursuant to Condition 4 of the above-referenced WBMD construction permit, Family is filing simultaneously an application for direct measurement of power of co-owned and co-located Station WFSI, Facility Id. No, 43864, Baltimore, Maryland.

Should any questions arise in connection with this matter, please communicate directly with this office.

Very truly yours,

Matthew H. McCormick
Counsel for Family Stations, Inc.

0 00154560 7

BP-20190719AAR

cc: WBMD Online Public Inspection File

cc (date-stamped via email): Son Nguyen, FCC Audio Division
Thomas Evans
Jennifer Burkhiser
Rob Branch

Accepted / Filed

Federal Communications Commission
Washington, D. C. 20554

Approved by OMB
3060-0627
Expires 01/31/98

FOR FCC USE ONLY

NOV 21 2019

Federal Communications Commission
Office of the Secretary

FCC 302-AM
APPLICATION FOR AM BROADCAST STATION LICENSE

(Please read instructions before filling out form.

FOR COMMISSION USE ONLY
FILE NO. BL-20191121AAH

SECTION I - APPLICANT FEE INFORMATION

1. PAYOR NAME (Last, First, Middle Initial)

Family Stations, Inc.

MAILING ADDRESS (Line 1) (Maximum 35 characters)
112 North Elm Street

MAILING ADDRESS (Line 2) (Maximum 35 characters)

CITY	STATE OR COUNTRY (if foreign address)	ZIP CODE
Shenandoah	IA	51601

TELEPHONE NUMBER (include area code)	CALL LETTERS	OTHER FCC IDENTIFIER (If applicable)
712-246-5151	WBMD	Facility ID No. 1913

2. A. Is a fee submitted with this application? ☐ Yes ☑ No

B. If No, indicate reason for fee exemption (see 47 C.F.R. Section

☐ Governmental Entity ☑ Noncommercial educational licensee ☐ Other (Please explain):

C. If Yes, provide the following information:

Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in the "Mass Media Services Fee Filing Guide." Column (B) lists the Fee Multiple applicable for this application. Enter fee amount due in Column (C).

(A) FEE TYPE CODE	(B) FEE MULTIPLE	(C) FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
	0001	$	

To be used only when you are requesting concurrent actions which result in a requirement to list more than one Fee Type Code.

(A)	(B)	(C)	FOR FCC USE ONLY
	0001	$	

	TOTAL AMOUNT REMITTED WITH THIS APPLICATION	FOR FCC USE ONLY
ADD ALL AMOUNTS SHOWN IN COLUMN C, AND ENTER THE TOTAL HERE. THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED REMITTANCE.	$	

SECTION II - APPLICANT INFORMATION		
1. NAME OF APPLICANT Family Stations, Inc.		
MAILING ADDRESS 112 North Elm Street		
CITY Shenandoah	STATE IA	ZIP CODE 50601

2. This application is for:

☐ Commercial ☑ Noncommercial

☐ AM Directional ☑ AM Non-Directional

Call letters	Community of License	Construction Permit File No.	Modification of Construction Permit File No(s).	Expiration Date of Last Construction Permit
WBMD	Baltimore	BP-20190719AAR		10/02/2022

3. Is the station now operating pursuant to automatic program test authority in accordance with 47 C.F.R. Section 73.1620?

☐ Yes ☑ No

If No, explain in an Exhibit.

Exhibit No. 1

4. Have all the terms, conditions, and obligations set forth in the above described construction permit been fully met?

☑ Yes ☐ No

If No, state exceptions in an Exhibit.

Exhibit No.

5. Apart from the changes already reported, has any cause or circumstance arisen since the grant of the underlying construction permit which would result in any statement or representation contained in the construction permit application to be now incorrect?

☐ Yes ☑ No

If Yes, explain in an Exhibit.

Exhibit No.

6. Has the permittee filed its Ownership Report (FCC Form 323) or ownership certification in accordance with 47 C.F.R. Section 73.3615(b)?

☐ Yes ☐ No

☑ Does not apply

If No, explain in an Exhibit.

Exhibit No.

7. Has an adverse finding been made or an adverse final action been taken by any court or administrative body with respect to the applicant or parties to the application in a civil or criminal proceeding, brought under the provisions of any law relating to the following: any felony; mass media related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination?

☐ Yes ☑ No

If the answer is Yes, attach as an Exhibit a full disclosure of the persons and matters involved, including an identification of the court or administrative body and the proceeding (by dates and file numbers), and the disposition of the litigation. Where the requisite information has been earlier disclosed in connection with another application or as required by 47 U.S.C. Section 1.65(c), the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and the date of filing; and (ii) the disposition of the previously reported matter.

Exhibit No.

8. Does the applicant, or any party to the application, have a petition on file to migrate to the expanded band (1605-1705 kHz) or a permit or license either in the existing band or expanded band that is held in combination (pursuant to the 5 year holding period allowed) with the AM facility proposed to be modified herein?

☐ Yes ☑ No

If Yes, provide particulars as an Exhibit.

Exhibit No.

The APPLICANT hereby waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because use of the same, whether by license or otherwise, and requests and authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended).

The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations and that all the exhibits are a material part hereof and are incorporated herein as set out in full in

CERTIFICATION

1. By checking Yes, the applicant certifies, that, in the case of an individual applicant, he or she is not subject to a denial of federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, or, in the case of a non-individual applicant (e.g., corporation, partnership or other unincorporated association), no party to the application is subject to a denial of federal benefits that includes FCC benefits pursuant to that section. For the definition of a "party" for these purposes, see 47 C.F.R. Section 1.2002(b).

☑ Yes ☐ No

2. I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

Name	Signature	
Thomas Evans		
Title	Date	Telephone Number
President	11/20/2019	510-568-6200

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION

FCC NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT AND THE PAPERWORK REDUCTION ACT

The solicitation of personal information requested in this application is authorized by the Communications Act of 1934, as amended. The Commission will use the information provided in this form to determine whether grant of the application is in the public interest. In reaching that determination, or for law enforcement purposes, it may become necessary to refer personal information contained in this form to another government agency. In addition, all information provided in this form will be available for public inspection. If information requested on the form is not provided, the application may be returned without action having been taken upon it or its processing may be delayed while a request is made to provide the missing information. Your response is required to obtain the requested authorization.

Public reporting burden for this collection of information is estimated to average 639 hours and 53 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, can be sent to the Federal Communications Commission, Records Management Branch, Paperwork Reduction Project (3060-0627), Washington, D. C. 20554. Do NOT send completed forms to this address.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant
Family Stations, Inc

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

☐ Station License ☑ Direct Measurement of Power

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
WBMD	BP-20190719AAR	750	Daytime Only	0	0.8

2. Station location

State	City or Town
Maryland	Baltimore

3. Transmitter location

State	County	City or Town	Street address (or other identification)
MD	Baltimore	Rosedale	8049 Edgewater Avenue

4. Main studio location

State	County	City or Town	Street address (or other identification)
CA	Alameda	Alameda	1350 South Loop Rd, Ste 130

5. Remote control point location (specify only if authorized directional antenna)

State	County	City or Town	Street address (or other identification)
CA	Alameda	Alameda	1350 South Loop Rd, Ste 130

6. Has type-approved stereo generating equipment been installed? ☐ Yes ☑ No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68? ☐ Yes ☐ No ☑ Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed. Exhibit No.

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system	RF common point or antenna current (in amperes) without modulation for day system
N/A	4.0

Measured antenna or common point resistance (in ohms) at operating frequency		Measured antenna or common point reactance (in ohms) at operating frequency	
Night	Day	Night	Day
N/A	50.0	N/A	0

Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day
N/A						

Manufacturer and type of antenna monitor:

SECTION III - Page 2

9. Description of antenna system ((f directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary.)

Type Radiator	Overall height in meters of radiator above base insulator, or above base, if grounded,	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit.
Guyed uniform cross section steel tower	73.1	74.6	75.2	Exhibit No.

Excitation ☐ Series ☐ Shunt

Geographic coordinates to nearest second. For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North Latitude 39 ° 18 ' 42 "	West Longitude 76 ° 29 ' 29 "

If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits. Exhibit No. 2

Also, If necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system. Exhibit No. 3

10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

None

11. Give reasons for the change in antenna or common point resistance.

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Name (Please Print or Type)	Signature (check appropriate box below)
Thomas R. Ray, III	
Address (include ZIP Code) 377 Chestnut Avenue New Windsor, NY 12553	Date November 12, 2019
	Telephone No. (Include Area Code) 845-401-3757

☐ Technical Director

☐ Registered Professional Engineer

☐ Chief Operator

☑ Technical Consultant

☐ Other (specify)

WBMD, BALTIMORE

EXHIBIT 1

WBMD is currently operating under STA at 250 Watts pending Program Test Authority. A condition on the Construction Permit required that WBMD prove spectral compliance and, since WBMD is diplexed with WFSI, prove that there is no interaction between the stations. This is all explained in the attached Engineering Report – please refer to the Engineering Report.

Tom Ray

Broadcast Consulting, LLC.

377 Chestnut Avenue | New Windsor, NY 12553 | 845-418-5065

ENGINEERING REPORT

APPLICATION to SATISFY CONSTRUCTION PERMIT BP20190719AAR, to
REQUEST PROGRAM TEST AUTHORITY and for
DIRECT MEASUREMENT OF POWER

to

RELOCATE ANTENNA SYSTEM WBMD(AM)
750 kHz
Baltimore, Maryland
Facility ID 1913 800 Watts Day ND

FAMILY STATIONS, Inc.

This report has been prepared to satisfy the requirements of Construction Permit BP20190719AAR granted to Family Stations, Inc on October 2, 2019. WBMD, 750 kHz, Baltimore, MD, is presently operating at 250 Watts Non-Directional at the location proposed in the Construction Permit under Special Temporary Authority BESTA20190823ABD, granted September 11, 2019.

Family Stations contracted with Kurt Gorman of Phasetek, Inc, Quakerstown, PA, to design, build and install the filtering and coupling circuits to diplex WBMD onto the existing radiator, known as Tower #3 in the WFSI (860 kHz) three tower directional array, also known as ASRN1029962.

Filtering for the WBMD signal (750 kHz) was installed into the coupling circuits of WFSI towers #1 and #2 to prevent interaction between the two signals. Filtering and a combining circuit was installed at the base of WFSI tower #3. Filtering for the 860 kHz signal of WFSI was installed at the output of the WBMD transmitter.

After installation, the WFSI array parameters were brought back to licensed values and the lines to the towers were properly matched. The WFSI Common Point was set to 50j0. The WBMD tuning network was adjusted to produce an impedance of 50j0 at the input to the WBMD portion of the antenna system.

Monitor points were measured on the WFSI signal and were found to be within limits. No interaction was shown between the WBMD signal and the WFSI directional antenna system.

Various frequencies (shown in Table 1) were measured, including harmonics and possible intermodulation product frequencies. All were acceptable and below FCC limits. Therefore, the filtering installed is adequate and working as it should.

NRSC Emissions measurements were performed on both stations. Both stations passed with no problems found.

The following conditions were imposed on the Construction Permit and their status is as follows:

1 **The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.**

Both WFSI and translator station W295BX (also located on Tower #3 of the WFSI array) were shut down during installation and modification. This condition is satisfied.

2 **Licensee shall be responsible for satisfying all reasonable complaints of blanketing interference within the 1 V/m contour as required by Section 73.88 of the Commission's rules.**

Family Stations is prepared to satisfy all reasonable complaints of blanketing interference. Seeing as WFSI has been operating at this site since 1955 and is well established in the area, no complaints are anticipated, but any received will be addressed promptly. This condition is satisfied.

3 **Permittee shall install a type-accepted transmitter or submit application (FCC Form 301) along with data prescribed in Section 73.1660(b) should non-type-accepted transmitter be proposed.**

A type-accepted Nautel J-1000 transmitter has been installed. This condition is satisfied.

4 **Before program tests are authorized, sufficient data shall be submitted to show that adequate filters, traps and other equipment has been installed and adjusted to prevent interaction, intermodulation and/or generation of spurious radiation products which may be caused by common usage of the same antenna system by Stations WBMD(AM), (Fac. ID #1913), Baltimore, MD and WFSI(AM), (Fac ID # 43864), Baltimore, MD, and there shall be filed with the license application copies of a firm agreement entered into by the two stations involved clearly fixing the responsibility of each with regard to the installation and maintenance of such equipment. In addition, field observations shall be made to determine whether spurious emissions exist and any objectionable problems resulting therefrom shall be eliminated. Following construction, and prior to authorization of program test under this grant, Stations WBMD(AM), (Fac. ID #1913), Baltimore, MD, and WFSI(AM), (Fac ID # 43864), Baltimore, MD, shall each measure antenna or common point resistance and submit FCC Form 302 as application notifying the return to direct measurement of power.**

The information presented in this report (and in the following documentation showing schematics and measurements) show that adequate filtering and traps have been installed and that there is no interaction between stations. Additionally, FCC Form 302-AM for WFSI will be filed concurrently with this application to show the Common Point Resistance. Family Stations owns both WFSI and WBMD and both stations have full responsibility for the operation and maintenance of the combining system, though they will prepare an agreement between the stations. Additionally, documentation following this section will show that there are no spurious emissions and that this facility is producing a clean signal. This condition is satisfied.

5 **The ground system consists of 120, 49-m to 76-m equally spaced, buried, copper radials plus a 7.3-m x 7.3-m copper ground screen about each tower. Radials are shortened and bonded to transverse copper strap midway between towers.**

The ground system was existing and not modified and is as described. This condition is satisfied.

It is therefore concluded that all conditions of the WBMD Construction Permit are satisfied, and that the diplex system is operating correctly.

Thomas R. Ray, III
President
Tom Ray Broadcast Consulting, LLC
SBE Certification 50798, CPBE
FCC General Class Radiotelephone License PG017214
FCC Amateur Extra License W2TRR

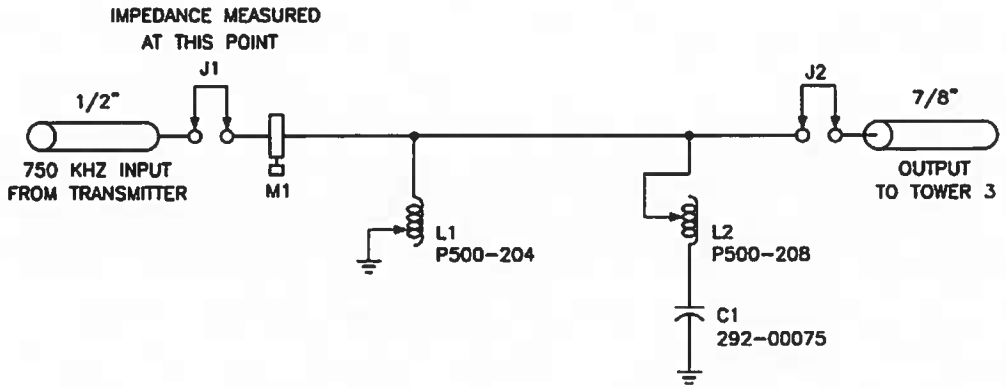
TABLE 1

Frequency (kHz)	dB below WBMD	dB below WFSI	Notes
530	-75.1	-79.4	
640	-	-	
750	-	-	
860	-	-	
970	-	-	Cannot be read due to WAMD
1080	-79.7	-83.9	
1390	-79.7	-89.3	
1500	-	-	WBMD 1st Harmonic. Cannot be read due to WFED
1610	-74.8	-79.1	
1720	-	-82	WFSI 1st Harmonic
1830	-82.2	-86.4	
2250	-82.2	-	WBMD 2nd Harmonic
2360	-80.8	-85.1	
2470	-76.9	-81.2	
2580	-	-77.2	WFSI 2nd Harmonic
3110	-83.8	-88	
3220	-84.7	-88.9	
3330	-82.9	-87.2	
3970	-83.8	-88	
4080	-82.2	-86.4	
4830	-84.7	-88.9	

The Limit for WBMD is -72 dB. The limit for WFSI is -77 dB.

REV.	DATE	DESCRIPTION	APPROVAL

PASS: 750 KHZ
REJECT: 860 KHZ

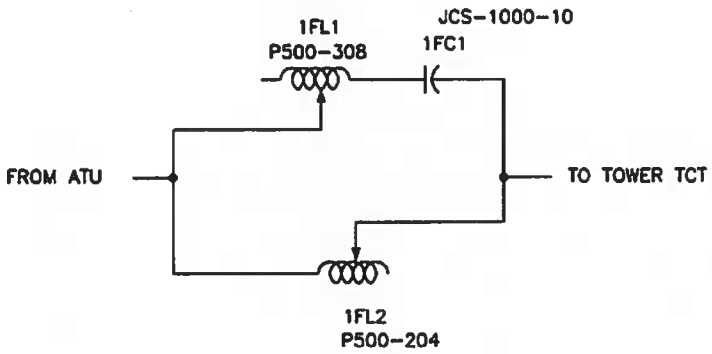


DRAWN BY KRG	DATE 3/20/19	PHASETEK INC. 550 CALIFORNIA RD. QUAKERTOWN, PA. 18951	
CHK'D			
ENGINEER		TITLE WBMD INPUT FILTER	
APP'D			
MATERIAL		SCALE NONE / SHEET 1 OF 1	SIZE A / DRWG. NO. P1006101

(01375259-1)

REV.	DATE	DESCRIPTION	APPROVAL

PASS: 860kHz
REJECT: 750kHz

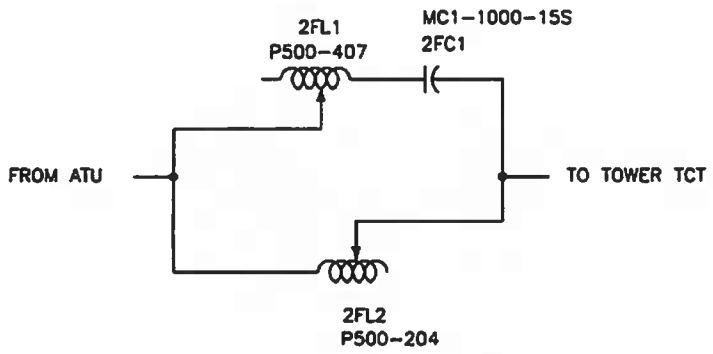


DRAWN BY KRG	DATE 3/20/19	PHASETEK INC. 550 CALIFORNIA RD. QUAKERTOWN, PA. 18951	
CHK'D			
ENGINEER		TITLE WFSI TOWER 1	
APP'D			
MATERIAL		SCALE NONE / SHEET 1 OF 1	SIZE A / DRWG. NO. P1006103

(01375259-1)

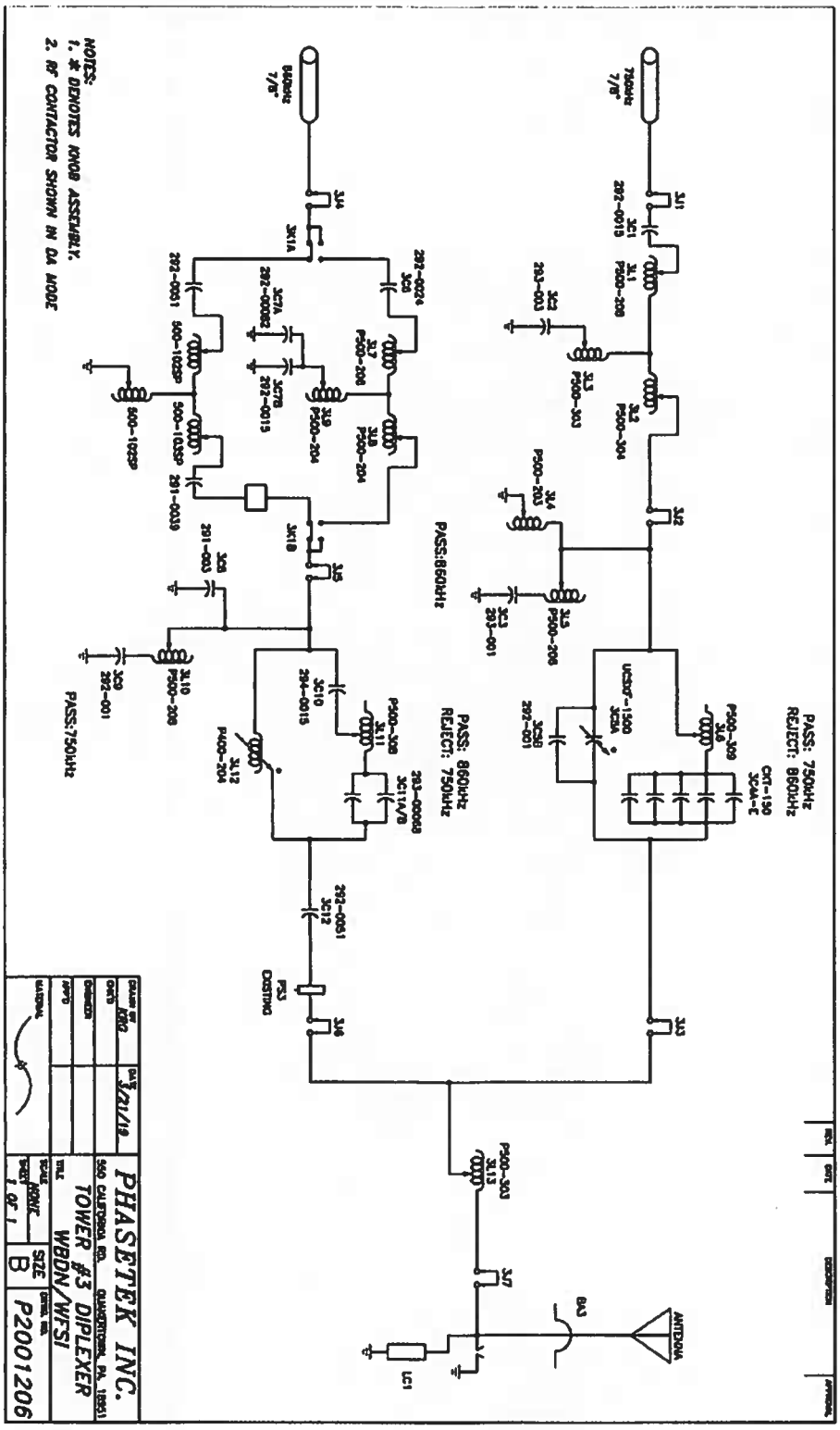
REV.	DATE	DESCRIPTION	APPROVAL

PASS: 860kHz
REJECT: 750kHz



DRAWN BY KRG	DATE 3/20/19	PHASETEK INC. 550 CALIFORNIA RD. QUAKERTOWN, PA. 18951	
CHK'D			
ENGINEER		TITLE WFSI TOWER 2	
APP'D			
MATERIAL		SCALE NONE / SHEET 1 OF 1	SIZE A
			DRWG. NO. P1006102

(01375259-1)


NOTES:
1. * DENOTES KNOB ASSEMBLY.
2. RF CONTACTOR SHOWN IN DA MODE
PASS: 750MHz
REJECT: 860MHz
PASS:860MHz
PASS: 860MHz
REJECT: 750MHz
PASS:750MHz
PHASETEK INC.
TOWER #3 DIPLEXER
WBDN/WFSI
P2001206
ANTENNA

WBMD, BALTIMORE

EXHIBIT 2

There is an FM antenna mounted at the top of the tower for translator W295BX. There is a transmission line running from the antenna to the base of the tower where it is connected to an isocoupler. The transmission line is bonded to the tower at appropriate locations.

WBMD, BALTIMORE

EXHIBIT 3

The ground system consists of 120, 49-m to 76-m equally spaced, buried, copper radials plus a 7.3-m x 7.3-m copper ground screen about each tower. Radials are shortened and bonded to transverse copper strap midway between towers. While WBMD is a non directional facility, it is diplexed onto one tower of the existing directional array of WFSI.